

Keeping Canada thistle under control at Agate

by Ruthann Knudson

“This ... program is a regional model for thistle control on private and public lands.”

WHEN NEBRASKA’S AGATE FOSSIL BEDS NATIONAL Monument was authorized in 1965, the federal government owned no land within the new park’s boundaries. All of the park’s 3,055 acres were originally private ranchlands, most of which had been grazed since the 1880s. After grazing was discontinued in 1974, the Canada thistle (*Cirsium arvense*) began to flourish in the Niobrara River valley.

In 1997, Agate mapped 125 acres of Canada thistle within park boundaries. Following an aggressive management program, only 25 acres of parklands were still infested with thistle by 2002. The thistle control project’s success can be attributed to persistent efforts over many years, including integrated pest management, surveying and follow-up monitoring, partnerships, interpretation, and competing for funds to support staff. In 2002 the Midwest Region recognized the success of this program with the nomination of Agate’s Maintenance Lead Supervisor, William Matthews, for the Director’s Award for Natural Resource Management Through Maintenance for his leadership in this important program.

The program involved a partnership with a regional noxious weed control consortium of federal, state, county, and private landowners and managers. It included the release of stem-mining weevils (*Ceutorhynchus litura*) or gallflies (*Urophora cardui*), mowing thistle growth just before seed head establishment, and application of herbicide (Telar) after the first hard frost. Over the years, permanent and seasonal park staff completed mowing activities. Park staff or contract workers under supervision of the county’s noxious weed program applied herbicides. An intern or seasonal biotechnician funded by the Natural Resource Preservation Program documented the program.

A Geographic Information Systems database available at the park contains information on all relevant areas of biocontrol, mowing, and chemical application. Reports on the results of the 2001 and 2002 programs are also on file at the park. Visitors can learn about the weed control program by reading a site bulletin or visiting a wayside exhibit funded by the Friends of Agate Fossil Beds, Inc.

The park is currently developing an environmental assessment of the use of fire on parklands and an accompanying fire management plan. The relationship between thistle manage-

ment and fire activities is an important element in the assessment and plan. This successful, well-documented program is a regional model for thistle control on private and public lands and is beginning to be used as such by regional resource managers.

Success in a control program such as Agate’s is a function of several factors, including persistence, team performance, and the right weather conditions. Soil moisture is a critical factor in the overwintering success of stem-mining weevils, mowing access, and herbicide applications. The 2002 summer drought inhibited thistle growth in general, but allowed park management to get into all the ordinarily wet meanders along the river valley. The result was an outstanding success. The task ahead is to work with all these factors to keep thistle contained into the future. ■

ruthann_knudson@nps.gov

Superintendent, Agate Fossil Beds National Monument, Nebraska



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Persistence, collaboration, and technical know-how, in addition to favorable weather conditions, contributed to the success of the eradication program. Drought in 2002 inhibited thistle growth generally, but also allowed resource managers to extend their treatment to normally wet meanders of the Niobrara River.